

REMARKS

[0003] Applicant respectfully requests reconsideration and allowance of all of the claims of the application. Claims 1-5, 7, 8, 10-15, 19-21, 25-28, 30, 31, 33, 35-37, and 40-43 are presently pending. Claims 1, 31 and 40-43 are amended herein. No new claims have been added nor have any claims been canceled herein.

Statement of Substance of Interview

[0004] The Examiner graciously talked with me—the undersigned representative for the Applicant—on December 10, 2008. Applicant greatly appreciates the Examiner's willingness to talk. Such willingness is invaluable to both of us in our common goal of an expedited prosecution of this patent application.

[0005] The Examiner was receptive to the proposals. However, the Examiner indicated that he would need to review the cited art more carefully and do another search, and requested that the proposed amendments be presented in writing.

[0006] Applicant herein amends the claims in the manner discussed during the interview. Accordingly, Applicant submits that the pending claims are allowable over the cited art of record for at least the reasons discussed during the interview.

Formal Request for an Interview

[0007] If the Examiner's reply to this communication is anything other than allowance of all pending claims and there only issues that remain are minor or

formal matters, then I formally request an interview with the Examiner. I encourage the Examiner to call me—the undersigned representative for the Applicant—so that we can talk about this matter so as to resolve any outstanding issues quickly and efficiently over the phone.

[0008] Please contact me to schedule a date and time for a telephone interview that is most convenient for both of us. While email works great for me, I welcome your call as well. My contact information may be found on the last page of this response.

Claim Amendments

[0009] Without conceding the propriety of the rejections herein and in the interest of expediting prosecution, Applicant amends claims 1, 31 and 40-43 herein. Applicant amends claims to clarify claimed features. Such amendments are made to expedite prosecution and more quickly identify allowable subject matter. Such amendments are merely intended to clarify the claimed features, and should not be construed as further limiting the claimed invention in response to the cited references.

Formal Matters

[0010] The Examiner has objected to the amendments made to the specification in the last response filed September 25, 2008. The specification was amended (Response filed 09/25/2008, page 4) to include "examples in which the present streamlined query processing can perform include[e], but [are] not limited to, a .NET environment and a Common Language Runtime (CLR) environment" responsive to the Examiner's objection to original claims 28 and 43 (See action 08/13/2007). These two claims specified the two environments added to the specification. An original claim is part of the original disclosure. Applicant has simply amended the specification to provide clear support or antecedent basis in the specification for the claim language as per the instructions in the MPEP. (See MPEP 608.01(o)).

[0011] The Examiner also objected to claims 40-42 for the lack of antecedent basis for the term "computer readable media". These claims have been amended to now include the term "computer storage media." Applicant respectfully requests that the Examiner withdraw the objections to these claims.

Substantive Matters

Claim Rejections under §101

[0012] Claims 1-5, 7-8, 31, 33, 35-36 are rejected under 35 U.S.C. § 101. Applicant respectfully traverses this rejection. Applicant herein submits that that the claims of the instant Application are to be construed—now and in the future-- to be limited to subject matter deemed patentable in accordance with United States Federal statutes, namely section 101 of Title 35 U.S.C., and as interpreted by appropriate and authoritative Article III entities. In light of this disclaimer, Applicant asserts that these claims are allowable. Accordingly, Applicant asks the Examiner to withdraw these rejections.

[0013] Further, these claims have been amended to include reference to a computer that comprises a processor and a memory per the Examiner instructions given during the aforementioned interview conducted December 10, 2008.

[0014] If the Examiner maintains the rejection of these claims, then Applicant requests additional guidance as to what is necessary to overcome the rejection.

Claim Rejections under §103

[0015] Claims 1-4, 7-8, 10-15, 37 and 41 under 35 U.S.C. §103(a) as being unpatentable over NPL #1, "Matching Events in a Content-based Subscription System" by Aguilera, in view of NPL #2, "Dynamic Query Evaluation Plans" by Graefe further in view of U.S. Patent No. 6,757,686 issued to Syeda-Mahmood.

[0016] Claims 5, 20-21, 25, 27-28, 30, 33, 35-36, 40, and 41-43 stand rejected under 35 U.S.C. §103(a) as being unpatentable over NPL#1, NPL #2, in further view of NPL #3, "excerpt from Java 2 Platform Std. Ed. V1.42" by Java API and in further view of Syeda-Mahmood.

[0017] In light of the amendments presented herein and the decisions/agreements reached during the above-discussed Examiner interview, Applicant submits that these rejections are moot. Accordingly, Applicant asks the Examiner to withdraw these rejections.

Obviousness Rejections

Lack of *Prima Facie* Case of Obviousness (MPEP § 2142)

[0018] Applicant disagrees with the Examiner's obviousness rejections. Arguments presented herein point to various aspects of the record to demonstrate that all of the criteria set forth for making a prima facie case have not been met.

Independent Claim 1

[0019] Applicant submits that the combination of cited art does not teach or suggest at least the following features as recited in this claim (with emphasis added):

- "implementing an optimized branch node that includes an optimized indexed lookup procedure, wherein the optimized lookup procedure comprises an interval tree function to optimize numeric interval queries; and"

- “restoring the optimized branch node to a generic branch node when the optimized branch node is no longer more efficient than the generic branch code.”

[0020] The Examiner indicates (Action, p. 5) the following with regard to this claim:

However, Graefe et al. discloses updating a branch node in the opcode tree to add a reference to the new opcode nodes, the branch node being referenced from a parent opcode node that corresponds to a last opcode object from the series of opcode objects that was found in the traversal of the opcode tree (Pg. 362, second full paragraph, “this operator provides the same open, next, close protocol as the other operators and can therefore be inserted into a query plan at any location.” This, also, shows that the ‘choose plan operator’ would be its own opcode node, when used in conjunction with Aguilera et al. Additionally, pg. 361, last paragraph of section 5, “If there is no gain in using a dynamic access module, the decision tree can by an empty function”); (e) implementing an optimized branch node that includes an optimized indexed lookup procedure, wherein the indexed lookup procedure is configured to return a set of (key, value) pairs, a single (key, value) pair corresponding to one branch. (This limitation is nothing more than a recitation of the steps taken by a hash algorithm, or related types of indexing methods, Applicant’s spec. pg. 22, lines 3-7.

[0021] In rejecting independent claim 1 – element (e) was addressed as if it still contained language directed to “the indexed lookup procedure is configured to return a set of (key, value) pairs, single (key, value) pair corresponding to one branch.” (See Action, p. 5). It was intended, via the previously submitted

amendment, to remove this language. As such, Applicant is unsure of the Examiner reasoning for rejecting this element.

[0022] Further, the Examiner failed to address element (f) "restoring the optimized branch node to a generic branch node when the optimized branch node is no longer more efficient than the generic branch code" as presently claimed by independent claim 1. Graefe is silent as to "restoring the optimized branch node to a generic branch node when the optimized branch node is no longer more efficient than the generic branch code". Instead Graefe teaches "If there is no gain in using a dynamic access **module**, the decision tree can be an empty function". (emphasis added for clarity, last paragraph of section 5, lines 4-6). Graefe teaches that "if the bindings dynamically inflict too much overhead on query processing" then the originally optimized designed queries are used. (See sections 1 and 5 of Graefe) Graefe does not teach that the "optimized branch node" is restored to "a generic branch code".

[0023] Additionally, Graefe teaches that the entire module is changed to a different optimized module. Graefe does not teach that a specific "optimized branch node" is restored "to a generic branch node when the **optimized branch node** is no longer more efficient than the generic branch node". The present application does not look at the system efficiency to determine a change in system but instead looks at the efficiency of specific nodes.

[0024] As shown above, the combination of cited art does not teach or suggest all of the elements and features of this claim. Accordingly, Applicant asks the Examiner to withdraw the rejection of this claim.

Dependent Claims 2-5 and 7-8

[0025] These claims ultimately depend upon independent claim 1. As discussed above, claim 1 is allowable. It is axiomatic that any dependent claim which depends from an allowable base claim is also allowable. Additionally, some or all of these claims may also be allowable for additional independent reasons.

Independent Claim 10

[0026] Applicant submits that the combination of cited art fails to teach or suggest each element and feature of independent claim 10. According to 37 CFR § 1.113 and MPEP 706.07, the "examiner should never lose sight of the fact that in every case the applicant is entitled to a full and fair hearing, and that a clear issue between applicant and examiner should be developed, if possible, before appeal." "The invention as disclosed and claimed should be thoroughly searched in the first action and the references fully applied."

[0027] While the Office Action provides a blanket rejection that includes claim 10, the Office Action fails to address claim 10 with specificity. In other words, the Office Action does not cite any references (alone or in combination) that disclose all of the elements of claim 10 and in their particular claimed arrangement.

[0028] Since the Examiner has provided little or no reasoning for its rejections, Applicant can do little more than gainsay. Applicant is forced to make

assumptions and guesses as to the Examiner's specific reasoning. Therefore, Applicant submits that it has been denied its right to adequately and effectively respond to the Office's rejections.

[0029] Applicant submits that the Office has not articulated the reasons for its decision-making here. Furthermore, according to the reasons and facts given above and to 37 CFR § 1.113 and MPEP 706.07, Applicant respectfully submits that no clear issues has been developed between the applicant and the examiner for each pending claim so that such issues would be ready for appeal if the next action is made final. Accordingly, Applicant respectfully requests that the next action—if not a Notice of Allowance—be Non-Final.

[0030] Further, independent claim 10 is allowable as the cited art fails to teach or suggest "the opcode merger is further configured to restore an optimized branch node to a generic branch node when the optimized branch node is no longer more efficient than the generic branch node." Accordingly, Applicant asks the Examiner to withdraw the rejection of this claim.

Dependent Claims 11-15

[0031] These claims ultimately depend upon independent claim 10. As discussed above, claim 10 is allowable. It is axiomatic that any dependent claim which depends from an allowable base claim is also allowable. Additionally, some or all of these claims may also be allowable for additional independent reasons.

Independent Claim 19

[0032] Applicant submits that the combination of cited art fails to teach or suggest each element and feature of independent claim 19. As the Examiner does not reject claim 19, Applicant makes the assumption that claim 19 is in proper form for immediate allowance. This assumption is bolstered by the Examiner's statement at page 16 of the Office Action mailed October 06, 2008 stating claim 19 "would be allowable if rewritten in independent form." As claim 19 is already in independent form, Applicant assumes that claim 19 is allowable.

Dependent Claims 20, 21 and 25

[0033] These claims ultimately depend upon independent claim 19. As discussed above, claim 19 is allowable. It is axiomatic that any dependent claim which depends from an allowable base claim is also allowable. Additionally, some or all of these claims may also be allowable for additional independent reasons.

Independent Claim 26

[0034] Applicant submits that the combination of cited art fails to teach or suggest each element and feature of independent claim 26. As the Examiner does not reject claim 26, Applicant makes the assumption that claim 26 is in proper form for immediate allowance.

Dependent Claims 27, 28, and 30

[0035] These claims ultimately depend upon independent claim 26. As discussed above, claim 26 is allowable. It is axiomatic that any dependent claim

which depends from an allowable base claim is also allowable. Additionally, some or all of these claims may also be allowable for additional independent reasons.

Independent Claim 31

[0036] Applicant submits that the combination of cited art fails to teach or suggest each element and feature of independent claim 31. As the Examiner does not reject claim 31, Applicant makes the assumption that claim 31 is in proper form for immediate allowance. This assumption is bolstered by the Examiner's statement at page 16 of the Office Action mailed October 06, 2008 stating claim 31 "would be allowable if rewritten in independent form." As claim 31 is already in independent form, Applicant assumes that claim 31 is allowable.

Dependent Claims 33, 35, and 36

[0037] These claims ultimately depend upon independent claim 31. As discussed above, claim 31 is allowable. It is axiomatic that any dependent claim which depends from an allowable base claim is also allowable. Additionally, some or all of these claims may also be allowable for additional independent reasons.

Independent Claim 37

[0038] Applicant submits that the combination of cited art fails to teach or suggest each element and feature of independent claim 37. As the Examiner does not reject claim 37, Applicant makes the assumption that claim 37 is in proper form for immediate allowance. This assumption is bolstered by the

Examiner's statement at page 16 of the Office Action mailed October 06, 2008 stating claim 37 "would be allowable if rewritten in independent form." As claim 37 is already in independent form, Applicant assumes that claim 37 is allowable.

Dependent Claims 40-43

[0039] These claims ultimately depend upon independent claim 37. As discussed above, claim 37 is allowable. It is axiomatic that any dependent claim which depends from an allowable base claim is also allowable. Additionally, some or all of these claims may also be allowable for additional independent reasons.

Conclusion

[0040] All pending claims are in condition for allowance. Applicant respectfully requests reconsideration and prompt issuance of the application. If any issues remain that prevent issuance of this application, the **Examiner is urged to contact me before issuing a subsequent Action.** Please call or email me at your convenience.

Respectfully Submitted,

Lee & Hayes, PLLC
Representatives for Applicant

/Jason F. Lindh Reg. No. 59,090/ Dated: 2008-12-10

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